

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An integrated device for oxygenating and filtering blood flowing through an extracorporeal blood circuit comprising:

a housing including a first portion positioned at a top of the housing and a second portion positioned at a bottom of the housing;

a bubble trap having an inlet for receiving venous blood and an outlet for supplying venous blood, the bubble trap disposed within the first portion of the housing;

a blood pump having a rotor, an inlet connected to receive venous blood and an outlet positioned at a top of the blood pump, the blood pump rotor disposed within the second portion of the housing;

a heat exchanger having a blood inlet connected to receive venous blood from the outlet of the pump and a blood outlet for supplying temperature controlled venous blood;

an oxygenator having an inlet connected to receive venous blood from the outlet of the heat exchanger and an outlet for supplying oxygenated blood; and

an arterial blood filter having an inlet connected to receive oxygenated blood from the outlet of the oxygenator and an outlet for supplying filtered oxygenated blood; and
a monolithic housing including a first portion positioned at a top of the monolithic housing for defining the bubble trap, a second portion positioned at a bottom of the monolithic housing for defining the blood pump, a third portion for defining the heat exchanger, a fourth portion for

defining the oxygenator and a fifth portion for defining the arterial blood filter, wherein the integrated device does not comprise a venous reservoir.

2. (Original) The integrated device of claim 1 wherein the blood pump comprises a centrifugal pump.

3. (Currently Amended) The integrated device of claim 2 wherein the centrifugal pump has an axis and wherein the centrifugal pump is positioned within the ~~monolithic~~ housing such that the axis of the centrifugal pump is horizontal.

4-6. (Canceled)

7. (Currently Amended) The integrated device of claim 1 wherein the ~~monolithic~~ housing is configured such that blood flowing through the extracorporeal circuit is directed through the bubble trap before the blood enters the blood pump.

8. (New) The integrated device of claim 1 wherein the oxygenator is coaxially aligned with the heat exchanger.

9. (New) The integrated device of claim 1 wherein blood exiting the pump flows upwardly through the heat exchanger and then passes through the oxygenator.

10. (New) The integrated device of claim 9 wherein blood exiting the heat exchanger flows downwardly through the oxygenator.

11. (New) The integrated device of claim 1 wherein the second portion of the housing is transparent.

12. (New) The integrated device of claim 1 further comprising a duct extending between the outlet of the bubble trap and the inlet of the pump.

13. (New) An integrated device for oxygenating and filtering blood flowing through an extracorporeal blood circuit comprising:

a housing;

a bubble trap configured to receive venous blood, the bubble trap disposed within an upper portion of the housing;

a blood pump having a rotor, the blood pump rotor disposed within a lower portion of the housing;

a duct extending from the bubble trap to the blood pump, the duct configured to permit blood to flow from the bubble trap to the blood pump;

a heat exchanger configured to receive blood from the pump and provide temperature controlled blood;

an oxygenator configured to receive temperature controlled blood from the heat exchanger and provide oxygenated blood; and

an arterial blood filter configured to receive oxygenated blood and provide filtered oxygenated blood;

wherein the integrated device does not comprise a venous reservoir.

14. (New) The integrated device of claim 13 wherein the blood pump comprises a centrifugal pump.

15. (New) The integrated device of claim 14 wherein the centrifugal pump has an axis and wherein the centrifugal pump is positioned within the housing such that the axis of the centrifugal pump is horizontal.

16. (New) The integrated device of claim 13 wherein the oxygenator is coaxially aligned with the heat exchanger.

17. (New) The integrated device of claim 13 wherein blood exiting the pump flows upwardly through the heat exchanger.

18. (New) The integrated device of claim 13 wherein blood exiting the heat exchanger flows downwardly through the oxygenator.

19. (New) The integrated device of claim 13 wherein the lower portion of the housing is transparent.